State of Utah

JON M. HUNTSMAN, JR.
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GARY R. HERBERT
Lieutenant Governor

DEPARTMENT OF TRANSPORTATION

JOHN R. NJORD, P.E.
Executive Director

CARLOS M. BRACERAS, P.E.
Deputy Director

DATE: February 15, 2006

TO: Region Directors, Group Leaders, Preconstruction Engineers, Project Designers, Project Managers, and Consultant Project Managers

FROM: Carlos M. Braceras
UDOT Deputy Director

Carlos Maria Braceras
cn=Carlos Maria Braceras, c=US, l=Salt Lake City, st=UT, ou=http://www.usertrust.com/cps, email=cbraceras@utah.gov
2006.03.29 11:18:36 -07'00'

SUBJECT: Design Exception, Design Waiver, and Deviation from UDOT Standards Request Procedure

The Design Exception and Design Waiver process has been updated with the addition of the Deviation from UDOT Standards Procedure. In order to simplify the documentation of Design Exceptions, Design Waivers, and Deviations a new form has been developed. The UDOT Web site at http://www.udot.utah.gov/index.php/m=c/tid=653 provides this new form, instructions, and related information. The related information includes a listing of the 12 Critical Elements, Additional Design Criteria Requiring Design Waivers, and a Deviation from UDOT Standards Table. References to the location in the current AASHTO 2004 publication, *A Policy on Geometric Design of Highways and Streets* are provided for the 12 Critical Elements and the Additional Design Criteria.

Requirements for the submission of this form are listed in the instructions. The development of the Design Exceptions, Design Waivers, and Deviations from UDOT Standards process is on-going and may have some modifications even after implementation. The current form, instructions, and related information found on the above Web page will be used beginning immediately.

Submit requests in accordance with instructions on the approved form through the required coordination levels to the UDOT Preconstruction Engineer for approval. The form provides the documentation to allow an evaluation of the effects of allowing substandard or nonstandard conditions to remain.

Instructions: Design Exceptions, Design Waivers, and Deviations from UDOT Standard Process

All projects on the National Highway System (NHS), whether funded with Federal-Aid or other independent funding, must meet UDOT design standards. The Design Exception, Design Waiver, and Deviation from UDOT Standard Process may be used in specific instances where it is cost effective to deviate from the design criteria or UDOT Standards. Cost is not always the consideration to deviate from design criteria or Standards. This Process should provide as much information and detail as possible to make an informed decision. Deviations to design criteria and UDOT Standards must be supported by engineering analysis and justification. Design Exceptions, Design Waivers, and Deviations from UDOT Standards will be approved on a case by case basis and will be evaluated with the Operational Safety Report.

Design Exceptions, Design Waivers, and Deviations from UDOT Standards can be initiated as early as the project concept phase. All Design Exceptions, Design Waivers, and Deviations from UDOT Standards requests are submitted to the UDOT Preconstruction Engineer once all Region signatures are obtained.

Part I: Design Exception/Design Waiver

Complete Part I of the form for Design Exceptions and Design Waivers.

1. Design Exceptions are required when the 12 Critical Elements or the Bridge Rail or Parapet Standards are not met in the design of a project.

2. Design Waivers are required when the Additional Design Criteria are not met in the design of a project.

3. Design Exceptions and Design Waivers are not required on Orange Book, Pavement Preservation projects for the following:

    a) Minor concrete curb and gutter repair
    b) Culvert extensions
    c) Pavement Preservation that does not reduce lane and shoulder widths
    d) Structure painting

4. Design Exceptions and Design Waivers are required on Purple Book projects where existing conditions change.

Part II: Deviation from UDOT Standards

Complete Part II of the form for Deviation from UDOT Standards.

1. Deviations from UDOT Standards are required on all projects based on the "Deviation from UDOT Standards Table of Items and Required Action" in Part II of the Form.

2. Do not make any changes to any federal program or project requirement. (Examples are MUTCD, Buy America, Disadvantaged Business Enterprise, Davis-Bacon, FHWA-1273, and Quality Assurance Program.)

3. Changes must be on a project-by-project basis and must be project specific.

4. Deviations are required when there is a Level 1 Deviation from UDOT Standards. Approval from the UDOT Central office, Preconstruction Engineer, is required for a Level 1 Deviation from UDOT Standards.

5. Deviations for Level 2 and Level 3 are to be included in the project file but do not require use of the Form. The recommendation is to use the Form to document the deviation along with supporting data but coordination outside of region level is not required. The region offices approve Level 2 and 3 Deviations.

Part III: Approval/Signatures

Prepared by information required for all submissions.

Project Manager and Region Preconstruction Engineer's signature required for all submissions.

Region Director's signature required for Deviation from UDOT Standard, Level 1 and Level 2 only.

Traffic and Safety Engineer's signature not required for Deviation from UDOT Standard only.

Preconstruction Engineer's signature required for all options.

FHWA signature required for Design Exceptions and Design Waivers.

General: Process

Complete the UDOT Design Exception, Design Waiver, or Deviation from UDOT Standards (Level 1) form.

Select the type of request and enter the required information.

Obtain the required signatures.

Submit all copies to:
Richard Miller
Preconstruction Engineer
Box 148460

Submit 3 copies unless FHWA sign off is needed. In that case submit 4 copies.

Utah Department of Transportation
Design Exception, Design Waiver or Deviation from UDOT Standards

Type Request: (Select as many as applicable)

- ☐ Design Exception **(Complete Parts I and III as appropriate)**
- ☐ Design Waiver **(Complete Parts I and III as appropriate)**
- ☐ Deviation from UDOT Standards **(Complete Parts II and III as appropriate)**

Project No.:

Project Description:

Type of Project and Character of Work:

Part I. Design Exception/Design Waiver

Traffic Data:

Project Design Life:							
Existing			AADT			% Trucks	
Projected			AADT			% Trucks	
Projected			AADT			% Trucks	

Geometric Data:

Posted Speed Limit		Proposed Design Speed	
No. of Lanes		Type of Facility	
Pavement Width		Shoulder Width	
Clear Zone		Shoulder Type	
ROW width			

Accident History:

	Rate	Expected
Period		
Accident Rate		
Severity		

Remarks:

Adjoining Section Geometric Compatibility:

Direction: _____

Pavement Width _____ Shoulder Width _____ Shoulder Type _____

Compatibility: _____

Direction: _____

Pavement Width _____ Shoulder Width _____ Shoulder Type _____

Compatibility: _____

Programmed Future Improvements: _____

Cost Data:

Project Cost as Proposed _____

Project Cost to Attain FHWA 12 Critical Elements (Design Exceptions) _____

Project Cost to Attain Other AASHTO Standards (Design Waivers) _____

Attach Detailed Estimate (Provide item by item breakdown)

Comments:

_____

Exceptions to FHWA's 12 Critical Elements

Project No. _____ **Attachment** _____
Location _____ **Sheet** _____

LOCATION	ELEMENT	EXISTING	UDOT STANDARD AASHTO 2004	PROPOSED	3 YEAR ACCIDENTS		MITIGATION	REMARKS
					ACTUAL	EXPECTED		

Critical Elements:

1. Design Speed
2. Lane Width
3. Shoulder Width
4. Horizontal Alignment
5. Vertical Alignment
6. Grades
7. Stopping-Sight Distance
8. Cross Slopes
9. Super Elevation
10. Structural Capacity
11. Vertical Clearance
12. Bridge Width

Waivers of Additional AASHTO Design Criteria

Project No. _____ **Attachment** _____
Location _____ **Sheet** _____

LOCATION	ELEMENT	EXISTING	UDOT Standard	Proposed	3 YEAR ACCIDENTS		MITIGATION	REMARKS
			AASHTO 2004		ACTUAL	EXPECTED		

Additional Design Criteria:

1. Horizontal Clearance
2. Ramp Terminal Sight Distance
3. Ramp Design
4. Gores
5. Ramp Terminals
6. Ramp Entrances
7. Acceleration Lanes
8. Ramp Exits
9. Deceleration Lanes
10. Guardrail Bridge Connection
11. Side Slopes
12. Intersection Sight Distance
13. Curb Configuration

Design Exception Request - Bridge Rail or Parapet

Structure Number:	
Location:	
Mainline or Overcrossing:	
Sufficiency Rating:	

Existing Systems													3-Year Accidents		Remarks
Bridge						Approach									
Rail Type	Condition	Height	Width			Approach Rail/Barrier									
			Total	Lane	Shoulder	Type	Attached Y/N	Standards Y/N	Width				Actual	Expected	
									Total	Lane	Shoulder				
*		Meets Standards Y/N													

Structure Number:	
Location:	
Mainline or Overcrossing:	
Sufficiency Rating:	

EXISTING SYSTEMS													3-YEAR ACCIDENTS		REMARKS
BRIDGE						APPROACH									
RAIL TYPE	CONDITION	HEIGHT	WIDTH			APPROACH RAIL/BARRIER									
			TOTAL	LANE	SHOULDER	TYPE	ATTACHED Y/N	STANDARDS Y/N	WIDTH				ACTUAL	EXPECTED	
									TOTAL	LANE	SHOULDER				
*		Meets Standards Y/N													

* Attach sketch of rail type

Part II. Deviation from UDOT Standard

Deviation from UDOT Standards Table of Items and Required Action

Deviation from UDOT Standards Table of Items and Required Action				
Level	**Item**	**Approval Location**	**Approval Level**	**Requirements**
3	Special Provisions and Detailed Drawings	Region	Region Preconstruction Engineer	Project scope related, special provision adds a new section, or a new drawing is added.
2	Special Provisions and Detailed Drawings	Region	Region Director	Any change that: 1) Entirely or in part modifies or deletes a Standard or Supplemental Specification 2) Modifies or deletes a Standard Drawing or 3) Modifies or deletes an internal design process.
1	Special Provisions and Detailed Drawings	Complex	Preconstruction Engineer	Any special provision or drawing related to Traffic Control that has or could have a significant impact on safety.
N/A	Design Exceptions	Central	Preconstruction Engineer	Existing Process
N/A	Design Waivers	Central	Preconstruction Engineer	Existing Process

Deviation from Standards requirements continued on next page.

Complete the below for each requested deviation from a UDOT Standard.

Level:	☐ **Level 1**	☐ **Level 2**	☐ **Level 3**
UDOT Standard:			
Proposed Deviation:			
Project Cost to Attain UDOT Standard:			
Explanation of Deviation:			
Safety Impacts:			
Cost/Benefit:			
Measurement and Payment:			
Material Acceptance:			
Associated Risk:			

Part III: Approval/Signatures

Prepared by _____ **Date** _____

Project Manager _____ **Date** _____

Region Preconstruction Engineer _____ **Date** _____

Region Director _____ **Date** _____
(Deviation from UDOT Standard only)

Traffic and Safety Engineer _____ **Date** _____

Preconstruction Engineer _____ **Date** _____

***FHWA Approval** _____ **Date** _____

* if needed

Prepared by information required for all submissions.

Project Manager and Region Preconstruction Engineer's signature required for all submissions.

Region Director's signature required for Deviation from UDOT Standard, Level 1 and Level 2 only.

Traffic and Safety Engineer's signature required for all options.

Preconstruction Engineer's signature required for all options.

FHWA signature required for Design Exceptions and Design Waivers.